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EXAMINING THE COGNITIVE AND SOMATIC MANIFESTATION OF
COMPETITIVE STATE ANXIETY IN SPECIAL OLYMPICS ATHLETES

by

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Bachelor of Arts, University of Nebraska-Lincoln, 2004

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

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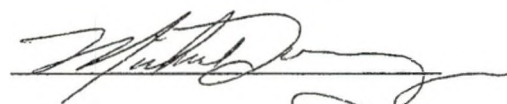
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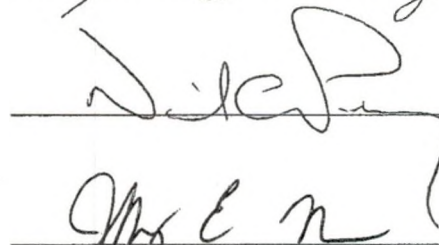


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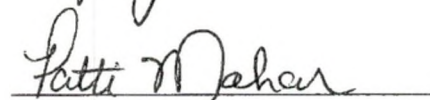
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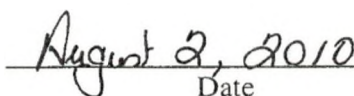





Patti Mahan

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To athletes who push through adversity

ABSTRACT

The experiences of cognitive and somatic competitive state anxiety in Special Olympics athletes and their family members or significant others was explored. This study used a multimethod approach to examining this construct to learn how performance anxiety is best understood in these athletes, who were identified on the basis of their eligibility to participate in the Special Olympics as determined by the inclusion criteria set by the state in which the research was conducted. Two methods were used including: completion of the Competitive State Anxiety Inventory by both athletes and parents, coaches, volunteers, or significant others prior to competition; and a qualitative measure in which athletes were asked to name five words to describe themselves as they thought about their competition. Twenty-one non-athlete participants and 167 participant athletes agreed to participate in this study. Results from the current study yielded a significant difference in the average CSAI-2 cognitive subscale scores for the Special Olympics athletes when compared to the published scale norms such that the Special Olympics athlete had a lower average score. No significant differences were found when comparing these norms to the average somatic subscale score for the Special Olympics athlete. Significant differences were found on the cognitive and somatic subscale scores for the mean scores of the non-athlete participants, when compared to the published norms, with the latter being higher than the former on both subscales. Results of this study also yielded a significant difference between the cognitive and somatic subscale

scores for the Special Olympics athlete, with the former being higher than the latter. Conclusions from this study suggest the possibility that athletes in this sporting venue experience levels of somatic competitive state anxiety comparable to the high school, college, and elite athletes for which the CSAI-2 was normed and suggest the possibility that cognitive anxiety should be further explored in athletes with intellectual disabilities to better understand the significant difference.

CHAPTER I

INTRODUCTION

The Special Olympics organization was founded in the 1970's as a way for people with intellectual disabilities to engage in physical activity and socialization. Engaging children and adults with intellectual disabilities in active sports allowed for increased self-worth, better physical health, and valuable lessons about sportsmanship and cooperation (Dykens & Cohen, 1996). The founding principles of Special Olympics still ring true today and are demonstrated through athletic competitions held locally, nationally, and internationally. The Special Olympics motto is "Let me win, but if I can't win, let me be brave in the attempt" (Special Olympics, 2008). If winning is the main motive for participation, is it possible that athletes put pressure on themselves to do well and consequently experience performance anxiety? If bravery is applauded in an attempt at winning does this promote a strong enough character trait to combat the potential negative effects of performance anxiety? Such questions demonstrate the need to examine whether this population experiences performance anxiety. Several researchers have investigated the issue of performance anxiety and how it manifests itself in various groups of athletes, but no previous studies have examined this concept in athletes with intellectual disabilities.

Performance anxiety is best understood by breaking symptoms up into cognitive and somatic symptoms (Martens, Vealey, & Burton, 1990). Cognitive symptoms of performance anxiety are most closely associated with worry about the competition and outcome. Somatic symptoms are best understood by examining experiences of autonomic arousal and include sweaty palms, rapid heartbeat, and tense muscles to name a few. Both of these subtypes of performance anxiety can be apparent in a variety of situations, and athletes describe it as most apparent before a major competition (Craig & Zwart, 1982). There are various treatments to assist with reducing this type of anxiety and therefore improving athletic performance. Athletes report using visualization, relaxation, and biofeedback techniques to calm them before a major competition (Brent, 2005). Professional treatments utilize these same techniques as well as implement Cognitive Behavior Therapy among other therapeutic treatments to help athletes work with this anxiety (Brent, 2005). In the therapeutic setting, anxiety has several effective treatments, and these treatments carry over from the general anxiety to specific performance anxiety (Smith, 2006). The effectiveness of these treatments has been evaluated by athletes at all competitive levels (Kenny, 2005). However, none of these treatments have been evaluated among Special Olympic athletes.

In order for current performance anxiety treatments to be evaluated on the Special Olympics athlete, it is first important to examine how performance anxiety could manifest itself for this athlete. The purpose of this study is to examine if individuals with a cognitive impairment do indeed experience cognitive states of competitive anxiety before a competitive event and if these individuals recognize these thoughts as anxiety.

An additional purpose of this study is to examine whether Special Olympics athletes identify and experience somatic symptoms of competitive anxiety prior to competition. Both of these sets of symptoms will be assessed with the Competitive State Anxiety Inventory (CSAI-2). I expect to see somatic competitive anxiety scores comparable to the norms set forth by Martens, Vealey, and Burton (1990) for other athletes (Hypothesis 1). However, I expect that a significant difference will exist for the cognitive competitive anxiety scores (Hypothesis 2). Additionally, I expect that there will be a significant difference in the subscale scores for cognitive anxiety and somatic anxiety for the Special Olympics athlete, with the latter scores being higher than the former (Hypothesis 3). This is important because if there is a marked difference between the two dimensions of competitive state anxiety, professionals can work with the athletes, coaches, and volunteers to effectively implement treatment strategies specific to the certain dimension. Sometimes coaches or supportive others can influence an athlete's experience of competitive state anxiety (Martens, Vealey, & Burton, 1990). The CSAI-2 has not been normed on a non-athletic sample, but this study attempts to generalize the measure to a non-athletic sample with the hopes of demonstrating that spectators at state-level events can also experience competitive state anxiety to the same extent as an athlete. Therefore, I also expect find that there is no difference in the subtypes of performance anxiety as measured by the CSAI-2 in spectators at the state-level competition (Hypothesis 4). A brief naming task was used to further assess whether athletes with intellectual disabilities have relatively more or less difficulty identifying cognitive symptoms or physical sensations that they are experiencing prior to competition. The results from this study aim to demonstrate how athletes with intellectual disabilities experience anxiety during a

state competition and to provide a context for considering treatment options addressing this construct for this population.

CHAPTER II

REVIEW OF LITERATURE

This chapter reviews the literature relevant to this study and is divided into two major sections; one examining the literature on Special Olympics and the other on competitive state anxiety. Given the central role of the Special Olympics to this study, several specific aspects will be examined, including: intellectual disabilities, motivational factors for enrolling in Special Olympics, programming and training in the Special Olympics, self-concept among and parental support for Special Olympics athletes, criticisms of the Special Olympics, and supportive evidence for the usefulness of the Special Olympics. The second major section includes an explanation of a detailed theory of competitive state anxiety as it applies to various athletic populations.

Special Olympics

The Special Olympics was founded in 1976 and has grown exponentially since that time to include millions of athletes worldwide. There are many sporting events within the Special Olympics, as well as various levels of competition within this organization. Athletes can choose to join a team (soccer, basketball), compete individually (track, swimming), play for recreation (participant ribbon), or compete at an international level. Some athletes train for several months before competition so that they can feel ready for the task (Cameron & Capello, 1993), whereas some participate

just so they can feel like they were able to make friends (Farrell et al, 2004). Each athlete is unique in his or her level of cognitive and/or physical ability. The Special Olympics is open to any person with an intellectual disability and provides various divisions of competition based on age, sex, intellectual and physical ability. Most athletes are developmentally delayed while a few have both a physical and cognitive impairment. A person with a physical disability and without an intellectual disability is considered ineligible for participation in the Special Olympics.

The diversity of intellectual ability levels for each athlete has actually served to limit research on participation in Special Olympics sports. Studies that examine this subject are limited to case studies and qualitative interviews for the most part, because researchers acknowledge that factors external to cognition (ie; culture, comorbid physical disability) affect the way each individual experiences his or her disability (Mohr, 2001). Despite these limitations this research is beneficial to demonstrate support for the Special Olympics programming as well as justify the existence of such a program in the first place.

Intellectual Disabilities

The definition of Mental Retardation can come with benefits and drawbacks. Controversy has sometimes erupted between definitions and in some cases that means denying services to certain individuals who may otherwise qualify. The Diagnostic and Statistical Manual (APA, 2000) defines mental retardation off of three diagnostic criteria; sub-average intellectual functioning ($IQ < 70$), onset before age 18, and significant impairments in adaptive functioning. The American Association for Mental Retardation

has a definition that is slightly different from that of the DSM-IV; it includes recognizing impairment in general intellectual and adaptive functioning before 18 years of age.

While the basic premises for these two definitions seem similar, inclusion criteria are very different even to the detail of a 5-point difference in qualifying IQ levels (AAMR says 75 with other impairments constitute MR). To be consistent with the language used by the Special Olympics organization, this study will utilize the terminology ‘persons with an intellectual disability’ to speak about the athletes participating in this study. This terminology includes someone who “must be at least eight years old and identified by an agency or professional as having one of the following conditions: mental retardation, cognitive delays as measured by formal assessment, or significant learning or vocational problems due to cognitive delay that require, or have required, specially-designed instruction.” (Special Olympics of North Dakota, 2008) This definition is considered the inclusion criteria for athletes in the State of North Dakota.

Historically speaking, people with intellectual disabilities were not encouraged to pursue healthy and independent lifestyles until the latter part of the 20th century (Horwitz et. al, 2000). Prior to this encouragement, it was thought that this population had to be institutionalized and cared for by others whose cognitions were fully intact. Within the last fifty years, legislation and public policy have worked toward a model of inclusion and independence for people with intellectual disabilities. The Americans with Disabilities Act, the Individuals with Disabilities Education Act, and the deinstitutionalization movement are a few of the historical landmarks for people with

intellectual disabilities who were trying to become independent individuals (Horwitz et. al, 2000).

It is no surprise that disadvantaged populations are treated with less respect and face the general public's stereotyping behavior which could limit one's initiative in certain areas. One such area is health care; individuals with intellectual disabilities have difficulty accessing appropriate health care. This happens for many reasons; the President's Commission on Mental Retardation (1999) suggests the possibility that physicians may not be able to receive the appropriate information about exhibiting symptoms because of the inability to accurately communicate symptoms on the part of the person with an intellectual disability. Another particular reason suggested by the Commission is because these individuals may not have awareness of how certain behaviors affect their physical health.

Physical health and activity for a person with an intellectual disability is naturally promoted within the Special Olympics. Event staff include physicians who are knowledgeable about disease processes and medication management for athletes (Moore, personal communication 2008). The Special Olympics organization works to combat the assertions put forth by the President's Commission on Mental Retardation by promoting physical activity and encouraging communication of symptoms between coaches and volunteer personnel. The encouraging atmosphere that has been created for athletes to describe physical symptoms can hopefully be translated into description of competitive anxiety symptoms as well. If athletes feel comfortable enough describing their symptoms to a trained professional in psychology, treatments can be tailored specific to the athlete's

needs prior to and following a competition. This study is the first step in directing future research on competitive anxiety description and recognition of symptoms for all involved in the Special Olympics.

Motivational Factors for Enrolling in Special Olympics

The Special Olympics has been successful worldwide because of high enrollment rates (Special Olympics, 2008). All individuals involved with the organization have reasons for supporting and continuing to support the philosophy of the Special Olympics. When an organization demonstrates success in enrollment and participation numbers, there is often the question of what factors contribute to this success. There are a series of studies that look at reasons for getting involved and staying involved in Special Olympics, both for athletes and parents. Such studies have been used to justify continued endorsement of Special Olympics programming worldwide.

One such study was done by Farrell et al. (2004), who interviewed various Special Olympics athletes and found that most athletes participated for reasons that enhanced autonomy, competence, and social interaction. Participants mentioned autonomously deciding to participate, meaning they had taken ownership of the choice to participate in physical competition within the Special Olympics (Farrell et. al, 2004). These participants acknowledged being influenced by coaches, family members, and significant others, but noted that ultimately the decision to participate came from them. This support from others heavily influenced their feelings of competence, which was another theme that emerged from the interviews conducted. Participants either noted participation to prove to others that they could be active while having a disability or

because medals and other feelings of accomplishment demonstrated their ability to perform well (Farrell et. al, 2004).

It is interesting to note that Farrell et al's (2004) study found relatively little emphasis placed on winning. While medals were seen as a motivator to demonstrate competence, participants also acknowledged that coaches and other supportive factors provided encouragement when they lost. This was something that was particularly important to a lot of the interviewed athletes. Finally, the other emerging theme that showed strong motivation to participate was social support. Athletes saw participation as an avenue to meet people, form relationships, and travel to various areas of the country. Some athletes mentioned family presence at competition as particularly helpful while others noted the encouraging roar of the crowd, or the hugging coaches at the end of a race as beneficial for continued participation (Farrell et. al, 2004).

Participants who chose not to participate further in Special Olympics provided several reasons for that decision. One important reason was a perceived lack of coach communication and attention. In addition to this, not feeling supported and questioning ability level were other major reasons for quitting Special Olympics sports. Questioning ability level is a symptom of cognitive competitive anxiety (Martens et al, 1999). If this study finds that Special Olympics athletes do experience cognitive competitive anxiety, early intervention can help athletes have a more positive experience in Special Olympics and can also prevent athlete dropout.

A major strength of Farrell et al's (2004) study is that it offers support for the important philosophies of the Special Olympics. It demonstrates that fostering an

environment that is supportive as well as growth-facilitating is just as important to the athletes as it is to those who founded the organization. In addition to this, it demonstrates the importance of independence and autonomy of these athletes who may otherwise be considered a dependent group of people (adults and children with intellectual disabilities). One limitation of this study may be related to internal validity, since some of the interviewees requested a parent or guardian be present during the interview to help remember information that could have been forgotten by the individual participant. Having said that, while the presence of a family member or guardian can influence the way a participant responds, it can also be considered a proper accommodation and enhance research results. This is relevant to the current study such that some accommodations might be needed in order for the athlete participant to successfully complete the study. Such accommodations could include requesting a teammate or parent is present while filling out the survey to asking for explanations on certain items within the survey.

Shapiro (2003) also conducted a study examining athletes' motivation to participate in Special Olympics by using a standardized questionnaire. She found that there were various reasons that athletes chose to participate, with some of the primary reasons being to win medals, socialize, exercise, and have fun. An interesting finding within this study is that athletes participated mostly for integrative reasons rather than for reasons dealing with their ego. Integrative reasons emphasize an athlete's perception of feeling included by others around him or her and included ideas such as team participation, socializing with friends, and interacting with coaches and volunteers.

Shapiro defined ego reasons as dealing with factors that emphasize competition and winning such as obtaining medals and qualifying for national and international competition. This finding is interesting and raises the question of how significant integrative or ego reasons are in an athlete's experience of competitive anxiety.

The standardized questionnaire that Shapiro used was the Sport Motivation Questionnaire that she developed in a previous study, which uses paired comparisons between two potential motivations for participation. Each participant was asked to answer the questions based on their opinion of reasons for participation in Special Olympic sports. Shapiro used athletes of all ages and with varying disabilities to try and get at a more representative sample. The representative sample is one of the strengths of this study. Another strength of the study is that it brings awareness to the various reasons for participation in athletic activity for people with intellectual disabilities.

It seems as though reasons to participate in Special Olympics vary by age (Shapiro, 2004). Children participate in Special Olympics sports for more of a motivational factor than do older individuals. This means that children chose to become involved in Special Olympics because they were motivated to make friends and stay fit. According to Shapiro's (2004) study, adults gave different reasons for participating rather than being motivated to make friends and stay fit such as enjoying the sport and having fun. Even though the study found motivational differences, the primary reason for participation regardless of age was to receive a ribbon or medal. Receiving a ribbon or medal seems to have an impact across all ages. Therefore, placing emphasis on medal attainment could be a strong influence on anxiety levels regardless of age.

Obtaining medals is not a reason that parents choose to enroll their children in Special Olympics programs (Goodwin et. al, 2006). Goodwin and colleagues found that parents wanted what was best for their children and therefore would initially enroll their child in community sports so as not to treat their child differently from other children. However, as parents saw their child's developmental delay interfere with his or her ability to compete at the level of his or her peers, the parents would decide that Special Olympics was the better option. This occurred more often when the child was involved in a team sport rather than an individual competition. Goodwin et al (2006) demonstrated that parents would keep their children in community activities like Tae Kwon Do which focuses on individual achievement in concert with Special Olympics sports, so as not to completely ostracize their child.

Goodwin et al (2006) used interviewing techniques to understand the decision of parents to enroll their child in Special Olympics. An interesting finding from this study showed that parents desired anxiety-free instructional atmospheres for their children. This particular finding is relevant to the current research proposed in this paper. If parents actively seek out anxiety-free situations for their children, is it possible that this anxiety can still be experienced by the child athlete? With what is known about surrounding environments, it can be speculated that the child athlete experiences anxiety from external sources beyond his or her immediate social support (Geladas et. al, 2007). With that being said, it is quite possible that the child experiences anxiety in what his or her parents had hoped was an anxiety-free setting due to other influences (crowd, volunteers, etc.).

Social integration was also seen as important to parents who did not want their children to feel different (Goodwin et al, 2006). Goodwin et al (2006) identified three prominent themes for parents who decided to have their child participate in the Special Olympics. Parents desired thoughtful instruction, finding a good fit for their child, and secure relationships between coach and athlete in whatever avenue of sport their child participated in. These three themes were better met in Special Olympics where coaches had more knowledge about various disabilities and how the disabilities affect performance. This added knowledge helped parents to trust their child to the care of a coach during practice. The trust allowed them to leave their child for team practice in a place where the child would feel safe and there were professionals around to assist in case something happened.

Easing the anxiety of parents is something that has been discussed as a strength of the Special Olympics organization (Weiss and Diamond, 2005). A major strength of Goodwin et al's (2006) study is that it is the first of its kind and brings attention to the important strengths of the Special Olympics programming. Having an understanding about the stress that parents feel about their children experiencing sports and participating to their best ability level will generate better programs for parents to understand Special Olympics.

Programming and Training in the Special Olympics

Programs within the Special Olympics leave room to allow athletes to train prior to competition. Sometimes practice before a competition produces more anxiety during performance (Brent et. al, 2005). Athletes are looking for ways to improve performance

and thus feel capable within their sport. There is no exception to this within the Special Olympics. Cameron and Capello (1993) reported a case study on an athlete who was training to participate in the track and field event of the Special Olympics. Cameron and Capello demonstrated that individual Special Olympics athletes can be trained to accomplish tasks so that achievement and optimum performance in sport can be attained through specific training programs. While competitive anxiety was not directly studied in this paper, the idea of competitive anxiety is inferred during discussion about the difficulties encountered the day of the competition including the fact that the athlete considered leaving the competition after examining the height of the hurdles and thinking the height was too much. This case study demonstrates that existing training program models can be used to benefit this specific population to increase self-confidence in task performance.

Gregg et al. (2004) also utilized a training program that had been demonstrated as effective in other athletes. Mental Skills Training (MST) is a model that packages psychological and physical elements to improve athletic performance. This study tested this model on three Special Olympics track athletes who were developmentally delayed and had been in competition for at least two years. This particular MST package used short and long-term goal setting, logging progress at practices, and mission development as some of the avenues to generate successful athletic performance. Success was measured on multiple variables including reduced number of off-task behaviors, meeting short and long-term goals as established by athlete and coach, and work output (Gregg et. al, 2004). These concepts were operationally defined within the study and this could be

considered a major strength. Baseline levels of off task behavior were measured through trained observers who then also observed the number of off task behaviors after the treatment had started.

MST is based on the assumption that performance needs improvement. Performance can be considered inadequate for a multitude of reasons, and the athletes did not identify themselves as needing additional treatment for performance enhancement. The coaches identified the athletes who may have needed the extra work, and this could present a slight bias on the part of the coaches (Gregg et. al, 2004). MST neglects to discuss the self-fulfilling prophecy in regards to the way the coaches treat these athletes after the study has started. If the coaches have a great investment in seeing this particular treatment plan succeed for the athlete, they may inadvertently give the athlete preferential treatment. Another major weakness of Gregg et al's (2004) findings is that performances in a competitive atmosphere were only measured twice due to the number of Special Olympics competitions taking place during the time of intervention. In both competitions, the athletes did not meet their goals for the competition, but came very close. Gregg et al (2004) also failed to offer any explanation for the unattained goals during competition and there is no mention of anxiety during competition. This article implements a treatment program for enhancing performance yet offers no explanation as to why there is a coach-identified need for performance improvement.

Competence within the individual was examined through a case study developed by Mohr (2001). This researcher worked closely with an internationally renowned Special Olympics tennis athlete on his anger problems on the tennis court. This

individual had been referred to the researcher by concerned family members, and the athlete himself had mentioned that his anger on the court was unacceptable. The researcher utilized a Cognitive-Behavioral Therapy treatment that targeted underlying thoughts and cognitions dealing with the irrational fears of this particular individual. The treatment lasted ten weeks, with the eleventh week demonstrating successful completion of the program by competing in a very difficult tennis match. Use of this therapeutic technique is based on the assumption of the experience of anxiety by an individual athlete, though this is not specifically addressed within the article.

The treatment consisted of progressive relaxation training in which the subject would listen to a tape daily that gave instructions on how to relax. Progress was measured weekly by the way that the subject gripped his racquet during the therapeutic session (Mohr, 2001). In addition to relaxation, the subject was taught positive self-talk through an educational process that got him to examine the link between thoughts and behaviors. He was also taught three simple rules for good sporting behavior and asked to memorize these rules and apply them to the court. The ninth week of therapy was spent in a practice match with the coach at which point the participant was asked to describe the feelings of losing. Throughout the process, the participant kept a journal and was able to reflect back on certain experiences when he would see that the negative thoughts about loss elevated his anger. The participant successfully completed the behavioral intervention and did not lose his temper at the next tennis match. There was no follow-up report on whether or not this intervention worked to abolish his destructive behavior on the court at later competitions. The study does not address the issue of competitive

anxiety at all, however negative cognitions and fear of rejection can influence the level of anxiety one feels prior to competition (Martens et al, 1990). It is important to investigate this study in detail as it is an attempt at treatment of a behavior for an individual who is a part of the population of interest for the current study. Some of the behaviors that the individual in this case study exhibited are behaviors that could be examined in further observational research.

Self-Concept and Parental Support

Overall evaluation of performance is related to self-concept and perceptions of competency (Deci et. al, 1991). Participants in Special Olympics programs demonstrate a higher self-concept than their non-athletic peers with a disability (Weiss et al. 2003). If self-concept is linked to athletic performance and athletes spend a certain amount of time training to perform well, is it safe to assume that the athlete may experience competitive anxiety? What happens if the athlete did not do as well as he or she had hoped? Self-concept is lowered, and the athlete runs the risk of decreased performance at future competitions. While increase or decrease in performance will not be measured in this study, it is an important construct to examine in future studies on performance or competitive anxiety and the Special Olympics athlete because self-concept might be a link between competitive anxiety and performance increase or decrease. For example, the more one experiences competitive anxiety the lower one's self-concept is and in turn this negatively influences performance.

The Special Olympics training program is designed to celebrate successes and build the self-concept of each individual athlete (Special Olympics, 2008). Frequently,

athletes are told by various sources that they cannot perform to the ability of their peers due to their disability. Weiss et al. (2003) demonstrated that the longer an athlete participated in Special Olympics, the higher his or her level of general self-worth was as recorded by answers to the Perceived Competence Scale for Special Athletes. In addition, the number of hours spent training each week was found to correlate with the level of perceived competence in each athlete.

Weiss and colleagues also recorded parents' perceptions of competence and self-concept in their Special Olympic athlete. They found that mothers rated their child's perception of physical competence higher based on the number of hours spent in practice each week as well as the number of medals won at a competition. Fathers rated their perception of their child's self-worth on the number of sports their child was involved in. This study demonstrates that parental evaluation is also important to young Special Olympics athletes and contributes to self-worth and perceptions of physical competence. These findings are essential to educate parents on the importance of support for their athlete. If parents notice that their support and attendance at sporting events pays off for their child's perceived competence, they may attend more competitions and find time to volunteer for the competitions that their child is at. This study generates ideas for future research measuring performance of Special Olympics athletes when their parents are present and when they are not. Anxiety tends to manifest itself when known evaluators are in the audience (Martens et. al, 1990). Anxiety tends to wane when athletic performances are consistently attended by parents and various significant others (Fisher & Zwart, 1982). Parents who regularly attend athletic functions are seen as supportive

factors rather than negative evaluators (Kenny, 2005), and this in turn improves performance. An athlete with a parent who irregularly attends athletic competitions may experience more anxiety when the parent is present and therefore make more mistakes and lower their perceived performance than the athlete whose parent is a regular attendee (Fisher & Zwart, 1982).

Parental attendance at Special Olympics competitions reduces parental stress (Weiss & Diamond, 2005). Weiss and Diamond used the Parenting Stress Index to measure the stress levels of various parents who have adults with intellectual disabilities. They found that parents who frequently attended their children's competitions reported less stress than those who attended less frequently. Also of interest, these authors found that mothers, but not fathers, who volunteer at Special Olympics events reported higher stress levels as measured by the Parenting Stress Index than those mothers who did not volunteer. Attempts to explain this finding are not elaborated within the study, but it could mean that mothers who are volunteering for competitions may see various behavioral problems or problematic coach/athlete interactions that cause more concern for their own child and thus have higher stress levels. These things may not necessarily be observable from the spectator there to support a single athlete. There is no explanation for why the same finding was not demonstrated in fathers who volunteer, but it can be speculated that fathers focus more on the competition and mothers focus more on the process behind the competition (Mellalieu et. al, 2003).

Weiss and Diamond's (2005) study is unique in the Special Olympics literature in that it is one of only a few articles that utilize an empirically-tested scale to measure an

emotional characteristic shared by parents of Special Olympics athletes. This finding is easier to generalize to multiple populations because of the shared experiences that most parents go through when any child competes (Philips & Tolmie, 2007). The added variable here is that this population is adults who are intellectually disabled and as a result have some higher needs. Stress would be anticipated to go up in these circumstances, but parents report an overall safe feeling when watching their athlete compete in the Special Olympics. This is due to the training of the coaches and staff at these competitions, who have more knowledge about intellectual disabilities, and are trained on how to respond if something were to go wrong. When stress is alleviated, parents have more of an opportunity to express pride and positive feelings in their child (Smith, 2006). This is also the case with adults with intellectual disabilities (Weiss and Diamond, 2005). These parents have an opportunity to facilitate their energies toward their son or daughter's accomplishments and less on the things that went wrong during competition.

The selection of the Parenting Stress Index by Weiss and Diamond (2005) to measure the type of stress experienced by parents of this population is of concern. The Parenting Stress Index is usually utilized to measure stress levels in parents who have young children (below age 12). By using this measure within this study, Weiss and Diamond assume that the stress levels of parents who have adult children with intellectual disabilities share the same stress levels as those parents who have young children. Further, this study included a limited representation of the parents of Special Olympics athletes as a whole. Most parents who participated in this study were already

invested in their adult child's life as an athlete. Therefore, the sampling size was skewed, with more parents fitting into the main category of 'almost always' attending sporting events. It would be beneficial to include more parents who rarely or never attend such competitions to balance the sample size.

Critics of the Special Olympics

Special Olympics is not without critics (Storey, 2004). Some argue that this activity is segregating individuals with intellectual disabilities and creates a false reality for this population to embrace. Storey (2004) investigates various arguments against the case for Special Olympics and verifies the need for further investigation of this issue. Segregating individuals with intellectual disabilities is one of the main arguments against Special Olympics programming (Storey, 2004) and from a larger sociological perspective, segregating individuals with disabilities further enhances the stereotype that this population needs the abled to assist them at all times (Mason et. al, 2004). Mason and colleagues (2004) do not comment specifically on the Special Olympics, but advocate for integration and increased contact between abled and disabled to reduce intergroup bias. Some might argue that the Special Olympics is directly contradicting sociological and psychological theories on integration being a means for reducing prejudicial attitudes toward minority groups.

Regarding athletes with disabilities, the term 'supercrip' has been used to describe a person with a disability who is physically fit and active in sports (Berger, 2008). Advocates for the 'supercrip' athlete argue that most athletes with a disability could perform better than athletes without a disability and therefore should not be given the

chance to compete in a separate disabled competitive category. Medland (2008) examined reverse integration through interviewing wheelchair basketball athletes who were not disabled and advocates for able-bodied individuals to participate in and compete with athletes with a disability as a way to change society's perceptions of people with a disability. While these two authors' main arguments are for people with physical disabilities, the segregation and stereotypes are also experienced by athletes with intellectual disabilities and can be considered a relevant critique of a category of activities that would include the Special Olympics.

The concern of segregation is discussed by Storey (2004), who identified four different components of integration: physical, social, relationships, and social networks. Storey argued that two of the four components were problematic for integrating individuals with intellectual disabilities into the mainstream society. His main argument is that physical integration is not occurring because participants have to meet certain criteria in order to participate. Storey says that these criteria can be used in regular sport as well and demonstrates that there is no difference between the person with an intellectual disability and the person without an intellectual disability in physical competition. Social integration is not being met by the philosophy of the Special Olympics because, Storey argues, the program is designed to isolate people with intellectual disabilities. Participants who are successful at social integration during competition and training cannot carry this integration over into the other settings of their life because the relationships they have formed only exist within the context of sports and others who are similar to them. Storey focuses on the negative idea of segregation and

again utilizes the idea of context-specific social integration that cannot carry over to other contexts outside of the sports realm to justify his point. He argues that the person with an intellectual disability cannot learn to generalize his or her social experiences from the Special Olympics to other settings. An interesting note to make is that by jumping to this assumption, Storey is essentially segregating this skill and making the statement that persons with an intellectual disability are incapable of contextualizing anything that they learn. This is most certainly not the case (Horwitz et. al, 2000).

Storey also analyzes other arguments against the Special Olympics, examining the accusations of lack of functional skills taught, age inappropriateness, lack of normalization, negative images in the media, and dominant coaches. Functional skills analysis at its most basic level can be determined if an individual is able to perform a task on his or her own, or if he or she needs help (Sawyer, 1983). Storey says there are no functional skills taught in the Special Olympics, and even challenges that there may be some skills that are lost or regressed as a result of participating in Special Olympics. Addressing anxiety within the context of sports could alleviate some of Storey's argument. Reducing anxiety in public situations, and in particular, social situations is a beneficial functional skill for individuals with an intellectual disability to learn (Horwitz et. al, 2000).

Storey's review relies heavily on popular media sources. His argument is that this helps portray an accurate depiction of what the general population thinks and feels about individuals with intellectual disabilities. This point is valid in some circumstances, but

there is also merit to empirical research to educate and demonstrate the points that are trying to be made.

Paul Roper (1990) wanted to demonstrate that different Special Olympics volunteer motivations can further enhance stereotypes of people with intellectual disabilities. He attempted to use a sociological theoretical perspective to explain attitudes of the general public to persons with an intellectual disability. He sampled over 300 volunteers who attended a state Special Olympics competition. Roper operated from the idea that increased contact with a marginalized population leads to a more positive evaluation of that population. This framework is called Contact Theory (Pettigrew, 1998), and Roper hypothesized that there would be no difference in the way that people with intellectual disabilities were perceived by the population of volunteers within the study. In a sense, he was trying to disprove Contact Theory's relevance to the sociological aspects of the Special Olympics. The Special Olympics tries to demonstrate that increased contact will lead to improved social development of persons with an intellectual disability (Special Olympics, 2008). Roper challenged this viewpoint and cautioned the Special Olympics officials against those volunteers who work to enhance the stereotypes of individuals with an intellectual disability. The volunteers who felt like they were helping out a group of people who could not help themselves are the types of volunteers that Roper cautioned the Special Olympics against. This caution is based on the Contact Theoretical perspective that these people were gaining more for themselves than for the others they were helping.

An overall weakness of Special Olympics research is the lack of attention to cultural differences and other diversity variables. People with intellectual disabilities are stereotypically marginalized almost as much as some minority populations, and there is relatively little mention of the ethnic backgrounds of each participant in the above mentioned studies. Many other factors may influence the performance of an individual athlete besides the intellectual disability, one of these being cultural identity. Some of these emerging issues could have an overall effect on the experience of competitive anxiety of a Special Olympics athlete. Anxiety can manifest itself differently in persons who have a different cultural background. Depending on the level of competition that an athlete is involved in, anxiety can be more heavily influenced by one factor more than the other.

Supportive Evidence for Special Olympics

Dykens and Cohen (1996) conducted a study that examined the effects of international Special Olympics on social competence in individuals with an intellectual disability. Some of their findings directly contradict Storey's assertion that social competence and skills are not taught through the Special Olympics. Dykens and Cohen conducted three separate studies utilizing the same measures within each study to demonstrate the idea that Special Olympics programming does in fact enhance an athlete's perception of social competence. The first study they conducted examined amount of time spent in the Special Olympics to overall behavior. The second study compared non-Special Olympians who also had an intellectual disability on various measures to note differences in overall social competencies. The third study utilized the

battery of assessments in a pre- and post-test design for international Special Olympians to determine if some social competencies were demonstrated as a result of being a part of an international competition.

The first study found that there was no significant correlation between self-perception and amount of time spent in participating in the Special Olympics, but there were significant correlations between adaptive behavior and amount of time as an athlete in the Special Olympics as well as this variable and competence. The second study demonstrated a significant difference in competence scores between the two groups. In the final study, new content arose in the sentence completion tasks as they were analyzed four months after the international competition had taken place. Each athlete completed the task again, and the concepts that seemed most relevant to competition in the games were positive self, achievement, winning, and sports. These themes were less dominant in sentences four months after the games had been complete, as it was assumed by this time that athletes had returned to a particularly normal schedule again.

Dyken and Cohen's (1996) study examined a larger population, which makes it unique to the Special Olympic research. This study had 104 participants who competed in the international Special Olympics competition, a population that was considered representative of the 6,000 state medal winners. As a result, this is the only Special Olympics literature that argues generalizability to a larger population. Parental report on measures for competence and adaptive behavior served as two of the primary data sources within this study. This could be considered a weakness because it minimizes the

actual experience of the individual athlete by asking for another opinion on the competence of an individual with an intellectual disability.

Anxiety

Researchers have been examining manifestations of anxiety since the 1950's (Martens et. al, 1990). Anxiety was generally defined and assessed through the use of scales such as the General Anxiety Scale (Sarason, et al, 1960). Through the use of this measure as well as equivalent others at the time, researchers concluded that anxiety had both acute (trait anxiety) and chronic (state anxiety) characteristics (Kazdin, 2000). This discovery led to the development of scales examining both trait and state anxiety types.

It was not until the 1970's that anxiety in a performance situation was thought to exist. Specifically, sport-related anxiety was first examined in 1975 by Rainer Martens. Martens developed the Sport Competition Anxiety Test (SCAT) that measured anxiety-trait behavior and demonstrated better measurement of anxiety-state behavior than the SAI (Martens, 1977). Through popular use of the SCAT, psychologists found that it would be helpful to have a measure that better examined specific anxiety-state behavior. Anxiety-state behavior was then measured by the Competitive State Anxiety Inventory (CSAI) by Martens and colleagues in 1980. Another conceptual shift occurred in measuring anxiety which led to the idea that not only is anxiety multidimensional (states and traits), but that anxiety in various contexts exhibits diverse behavior (Jones et. al, 1993).

This theoretical shift then allowed professionals to more specifically define what behaviors constitute state or trait anxiety. The initial version of the CSAI examined cognitive and somatic symptoms of anxiety, two characteristics of competitive anxiety thought specifically to relate to anxiety state behaviors. The distinction between cognitive and somatic symptoms of anxiety was an important one as it helped researchers identify the antecedents to each symptom and understand consequent behaviors as a result of that antecedent. Somatic anxiety symptoms are most closely associated with the physiological state of the body prior to competition. These may be the most visible and immediate symptoms that an athlete is able to recognize and include symptoms such as sweaty palms, stomach aches, and rapid heartbeat. Cognitive anxiety symptoms are most associated with a state of worry and include the thoughts and concerns an athlete has before competition. These include fear of failure, negative concerns about oneself, and negative outcome expectancies (Martens et. al, 1990).

Identifying cognitive and somatic anxiety-states seems to be rooted within the cognitive theoretical framework. Scientists utilized this framework to point out that there are different antecedents to cognitive anxiety than there are to somatic anxiety as it specifically relates to athletic performance (Jones et. al, 1993). Consequently, if the antecedents are different, there is a difference in the scores produced for each competitive anxiety state on the CSAI (Martens et. al, 1990). Athletes with an intellectual disability add another layer to the cognitive behavioral theoretical framework in that an antecedent condition for this athlete is cognitive impairment. With this particular antecedent condition, it would be expected that cognitive competitive anxiety states may be less

recognized by Special Olympics athletes; thus yielding a difference scores between cognitive and somatic anxiety states on the CSAI, with somatic scores being higher.

Competitive Anxiety

In 1975, Martens outlined a model that examines competition as a process. This model was the first of its kind to expand a cognitive domain to competition and as a result, various literature on competitive anxiety (which is commonly known as one dimension of performance anxiety in sport) began to appear. Martens' model emphasized cognitions as a mediator between stimulus (sport) and behavior (participation in sport) (Martens, 1975). This theoretical model is used in the current study as it provides the baseline assumptions set forth for competitive state anxiety as they are understood in sports psychology today (Jones et. al, 1993).

Martens' model starts out with the objective competitive situation (OCS) which is the competition itself defined in terms of opponent difficulty, playing conditions, rules, type of task, and available rewards. For most athletes, these constructs are defined with regards to what he or she must do to obtain a favorable outcome (Smith, 2006). Usually, these favorable outcomes are also defined by a certain standard and the standard can be another competitor, an ideal performance level or goal, or a past performance. Martens expanded even further to include that the OCS must also be understood by at least one other person who is aware of the comparison and takes part in evaluating the comparison (Martens, 1990). This evaluator can be a variety of individuals, with the most common individuals in competition being officials, coaches, family, or friends. This evaluative component is important as this is an antecedent to a cognitive anxiety state (Smith, 2006)

that transfers from general anxiety to competitive anxiety. Other antecedents include the presence of significant others, perceived performance ability, perceived performance ability of opponents, competition conditions, nature of competitive task, and available rewards.

Another component to Martens' 1975 model is the subjective competitive situation (SCS). The SCS is just as it describes itself; factors about the individual such as personality, disposition, attitudes and beliefs, and abilities that assist the person with perceiving themselves in the competitive situation. SCS is much more difficult to measure than OCS because it is factors within a person and must be inferred from behavioral observations and self-report (Martens, 1990). Since SCS is more about each individual's characteristics, it is thought to influence more of the competitive state anxiety as personality characteristics are more enduring qualities about the individual.

Responding to the competitive situation is also a part of the competitive process model (Martens, 1975). How an individual athlete responds to the OCS can be determined by his or her SCS. Response most likely means participating in the sport at hand and has three outcomes; a behavioral component (participating well or not well), a physiological response (palm sweating, nausea), and a psychological response (increased or decreased anxiety). Each of these responses generally influences an athlete's choice to continue competition (Fisher & Zwart, 1982). If an athlete performs well and has a low physiological and psychological response it is assumed that he or she will elect to continue participation. However, if one or both of the latter responses is somewhat altered even with participating well, it can influence an athlete's decision to participate.

It is this decision that leads to the final part of Martens' model: consequences. An athlete will consider positive and negative consequences before deciding to continue in competition and this decision depends on many factors. These factors include history of competition and number of perceived successes and failures in competition history. Martens acknowledged that the consequences of participation accumulate and influence an athlete's competitive trait anxiety (Martens et. al, 1990).

Perhaps one of the biggest flaws of Martens' model is that he neglected to include persons with an intellectual disability. It is quite possible that Special Olympics athletes experience this same thing to a greater or lesser extent and it is because this population was neglected in the initial theoretical framework that I would like to see how applicable Martens' model is to Special Olympics athletes. This study is a first step in the direction of better understanding how an athlete with an intellectual disability may experience performance (competitive sport) anxiety.

Purpose of Study

Participation in the Special Olympics has increased significantly since it was founded in 1968. In 2006, over 200 Special Olympics programs worldwide hosted approximately 2.26 million athletes in competition and activities. This is nearly double the athletes from the year before (Special Olympics, 2007). What were the experiences of these athletes? What is it about the Special Olympics that make it a successful program from the athlete's perspective? With so many participants and a large rate of growth, it is surprising that there is very little research examining this population.

While being overlooked, neglected, and abandoned are apparently common experiences for persons with an intellectual disability (Horwitz et. al, 2000), researchers should not contribute to this experience by failing to examine the experiences of Special Olympics participants. It is important to conduct such research, as these athletes are working hard to maintain healthy and productive lives despite an intellectual disability. Overcoming obstacles and learning to compete in a socially accepting environment can be a key aspect of successful lifestyles for these athletes. However, competition can create anxiety. Fear of evaluation, awareness of spectators, and fear of failure are some reasons that manifest anxiety in a performance situation (Martens, 1975).

Though much research has been done on competitive anxiety, currently there is no research on competitive anxiety experienced by Special Olympics athletes. People with intellectual disabilities experience anxiety in various situations, and it is important to know the triggers of anxiety to avoid emotional outbursts and other things that can happen as a result of this anxiety. It is possible that athletes who participate in Special Olympics sports experience competitive anxiety, and if this is the case, it would be beneficial to learn ways of treating this anxiety prior to performance. Treatment of competitive anxiety may be different for a person with an intellectual disability, who may not have the cognitive capabilities to understand the cognitive behavioral techniques employed in other athletes. It is first important to understand the extent to which Special Olympics athletes experience competitive anxiety. Following this, it is important to understand how this specific type of anxiety may be different from other feelings of anxiety that people with intellectual disabilities may have. Finally, if competitive anxiety

is determined to be different than other types of anxiety that manifests itself in a person with an intellectual disability, it is important to question if treatment methodologies can be developed to assist Special Olympics athletes with reducing this anxiety.

The purpose of this study is to explore the experiences of Special Olympics athletes by examining anxiety through a quantitative measure and through searching for themes in a qualitative question. Through this, the study hopes to explore to what extent Special Olympic athletes experience competitive anxiety.

Question 1: What are the descriptive experiences of Special Olympics athletes when asked to think about their competition?

Question 2: To what extent is competitive anxiety experienced by Special Olympics athletes?

Question 3: How can we best understand competitive anxiety in individuals with an intellectual disability?

Special Olympics athletes already have a cognitive deficit and as such may not be able to recognize experiences of cognitive anxiety. This should not affect the athlete's ability to recognize experiences of somatic anxiety and therefore I expect to see somatic competitive anxiety scores comparable to the norms set forth by Martens, Vealey, and Burton (1990) for other athletes (Hypothesis 1). However, I do expect there to be a significant difference in the means for cognitive competitive anxiety scores (Hypothesis 2). Additionally, I expect that there will be a significant difference in the subscale scores for cognitive anxiety and somatic anxiety for the Special Olympic athlete, with the latter

scores being higher than the former (Hypothesis 3). I also expect to find that there is no difference in the subtypes of competitive anxiety as measured by the CSAI-2 in coaches, parents, or legal guardians of the athletes (Hypothesis 4). I do not believe that cognitive symptoms are nonexistent however, and I believe that other anxiety symptoms will be most apparent in direct behavioral observations prior to and during athletic competition; this can be explored in a future study. It is quite possible that what is missing is not cognitive symptoms of anxiety, but recognition of these symptoms as anxiety.

CHAPTER III

METHOD

Participants

Athletes

A sample of Special Olympics athletes from the state of North Dakota were invited to participate in this study. Data was collected on the athletes at two state-level competitions; the Summer Games involving track and field, swimming, power lifting, volleyball, and bocce ball; and the Bowling Tournament. Participation in the research project was 11.26% for the Summer Games and 28.14% for the Bowling Tournament. This figure is based on a total enrollment of 462 athletes for the Summer Games and 469 athletes for the Bowling Tournament. One hundred percent of those athletes who approached the researcher's table on the day of the competition agreed to participate in the study. One hundred eighty-four athletes participated in the study, with incomplete data (two or more missing values on the CSAI-2) for 17 participants, yielding a total of 167 athletes included in data analysis. Gender representation in the study was fairly equal with 53% males (n=89), 46% female (n=77), and one participant who did not answer this question. This gendered breakdown is very similar to participation on each day of competition; 61.04% male (n=282), 38.96% female (n=180) for the Summer Games and 50.32% male (n=236) and 49.68% female (n=233) for the Bowling

Tournament. Athlete participants ranged in age from 11 to 70 with a mean age of 31 years ($SD = 13.01$). Data was missing for three participants and thus this figure is only representative of 164 of the 167 participants. While this data does not yield much information for youth, it is considered representative of the overall mean age at the various State Competitions where the data was collected. Athlete participants gave a variety of responses to the open-ended ethnicity question on the demographic form: 61.7% ($n=103$) responded as White, 25.7% ($n=43$) chose not to respond to this question, and the remaining participants responded as Native American ($n=2$), Hispanic ($n=2$), Swedish, German, Russian, and Half Black ($n=1$ for each). Athlete participants had a range of IQ levels or cognitive deficits that qualified them for competition in the Special Olympics programs and each athlete played either a team or individual sport occurring on the day of data collection.

Coaches, Family Members, and Volunteers

In addition to the athletes filling out information, coaches, volunteers, and family members present on the day of competition were asked to fill out the CSAI-2 and answer a few qualitative questions regarding their current state of mind as they watched each event. Fewer non-athlete participants opted to participate and consequently three events were used to collect data for these participants; the Summer Games, the Bowling Tournament, and the Winter Games which included skiing, skating, and handball. It is difficult to estimate the percentage of non-athlete participants that participated compared to the total number of volunteers and spectators, as there was no way to estimate the total number of non-athletes at each event. Twenty-five non-athletes participated in the study,

with incomplete data for four participants, yielding a total of 21 participants included in the data analysis. Gender representation for this group was also fairly equal, with 52% male (n=11) and 48% female (n=10). Participants ranged in age from 18 to 64, with a mean age of 41. Participants were eighty-one percent White (n=17), 14% did not fill in this information (n=3), and 4% (n=1) Indian. Each athlete and non-athlete participant was compensated for their cooperation by getting a UND pen once he or she completed the questionnaire.

Interviewer and Research Team

One counseling psychology doctoral student, a 26-year-old White woman served as the principal investigator for the research project and had a team of volunteers assist her on the days of data collection. At the Summer Games, two other trained interviewers served as research assistants and interviewed athletes prior to competition. One of these interviewers was a White female doctoral student in counseling psychology and the other was a White male with his Ph.D. in Communications. At the Bowling Tournament, approximately 50 volunteers served as interviewers and consequently demographic information is not available on these volunteers. The Bowling Tournament research assistants attended a 15-minute training on the day of the Bowling Tournament orienting them to the interview process and the principal investigator provided them with a detailed instruction sheet on how to conduct the interviews (see Appendix A). All Bowling Tournament research volunteers attended a local college and had some interest in the topic or population.

Measures

Demographic Form

The demographic form asked for some basic information about participants: age, gender, race/ethnicity, sport played, years in sport played, years in training for sport played, number of competitions enrolled in, and presence of support (See Appendix B). This form was filled out by the trained research assistant according to how the athlete answered the information at the time of data collection.

Competitive State Anxiety Inventory

The Competitive State Anxiety Inventory (CSAI-2) is a 27-item questionnaire that consists of three subscales; state self-confidence, somatic state anxiety, and cognitive state anxiety. The CSAI-2 measures pre-competitive levels of the above named constructs and each of the 27 items is measured on a 4-point Likert-type scale ranging from 1 (not at all) to 4 (very much so) and subscale scores range from 9 to 36. A total scale score is not given for the CSAI-2 and the three subscale scores are treated as separate scores for each individual construct. Cronbach's alpha for the CSAI-2 ranges from .79-.90, demonstrating the relatively high level of internal consistency for the subscales. Norms for this scale are published for high school, college, and elite athletes. Elite athlete data was taken from the sport psychology data bank of the U.S. Olympic Training Center. College and high school norm data was collected based on varsity-level competitive sports.

Qualitative Questionnaire

The final measurement consisted two questions attached to the CSAI-2 and demographic questionnaire; one that asked each athlete to give five words to describe him or herself as he or she thought about his or her competition and another that asked what each participant liked the most about the Special Olympics.

Procedures for Collecting Data

Recruitment of Athletes

Initial recruitment efforts were made two weeks prior to competition when each coach received registration information about the competition in the mail. Coaches who had athletes who were pre-registered for the competition received information regarding where to check in on the day of competition as well as times and locations of various activities throughout the day. Special Olympics sent an informational flyer about the research project along with this information, inviting athletes, coaches, families, and volunteers to participate in the research on the day of the competition (see Appendix C). Coaches were asked to inform their athletes of this research so that each athlete could consider participation in the study prior to arriving at the competition. Information about the study was provided as a reminder to athletes, coaches, families, and volunteers on the day of competition and the principal investigator was on hand during registration to answer any questions potential participants had. Various loudspeaker announcements on the day of competition served as a reminder for athletes and coaches and parents to

participate in the research project. All data was collected on the day of competition first by the participants completing the Competitive State Anxiety Inventory (CSAI-2) via interview with a trained research assistant for athletes and independently for coaches and parents. Athlete participants were eligible for the study if they had participated or were planning to participate in the competition occurring at that time. For some athletes this meant bowling and for others it meant any event at the summer games. Non-athlete participants were considered eligible for the study if they were a coach or family member of an athlete participating in the state-level competitions. In addition to the CSAI-2, all participants responded to a qualitative questionnaire developed by this researcher searching for words to describe each participant's current state of mind relative to the competition.

On the day of competition, coaches checked in their athletes at the registration table and volunteers staffing the registration table also reminded athletes and coaches of the potential to participate in research. Interested athletes were directed to another table in a designated area where the researcher and volunteers discussed the informed consent form and requested the participant sign a copy of the form. This form gave the researcher permission to collect data for the quantitative and brief qualitative measure. All participants who consented to participate were given a free pen with the university's logo as this was considered a sufficient incentive to participate in the research without being coercive.

Data Collection

After participants signed the consent form, they were asked a brief series of questions to gather information for the demographic form, the CSAI-2, and the qualitative measure. Participation was considered complete once the research assistant handed the participant his or her pen and thanked him or her for participating.

Procedures for Analyzing Data

Once the data was collected, the researcher entered all information from the demographics form, CSAI-2, and qualitative questions into either a word document or through SPSS. Participants were assigned a code number so as to protect anonymity of responses and once the code number had been entered into SPSS and Word, the participant's signed consent form was separated from the data. Qualitative responses were typed into a Microsoft Word Document and then matched with total subscale scores which were found in the SPSS spreadsheet. The purpose of linking the subscale scores to the Word Document with qualitative responses was to see if the types of responses given to the qualitative question impacted an individual athlete's score on the CSAI-2. Individual responses to each item on the CSAI-2 as well as all information on the demographic questionnaire was typed into SPSS with the exception of questions on motivation to sign up for activities, any new events the athlete was registered for, and the named supporters present according to the athlete's perspective. These three questions were added to the Microsoft Word document containing the qualitative responses as most athlete participants provided detailed responses to these questions. The same link to the three subscale scores was given for each of these three questions on the demographic questionnaire so that the researcher could examine if any of these three variables

impacted subscale scores. With the individual responses to each item on the CSAI-2, total subscale scores for somatic state anxiety, cognitive state anxiety, and state self-confidence were established through summation procedures in SPSS. In addition to this, group means were compared for somatic anxiety subscale scores to cognitive anxiety subscale scores for the participant athletes. Further, these group means were compared to the means established for high school, college, and elite athletes published by Martens, Vealy, and Burton (1990). Finally, qualitative responses were analyzed for positive, negative, or neutral content in order to report the overall descriptive experiences of the athlete participants as well as compare these descriptive experiences to the objective CSAI-2 measure.

CHAPTER IV

RESULTS

This chapter reviews the results of the stated hypotheses in an attempt to answer the three research questions posed at the beginning of this paper. Demographic information is referenced and preliminary analyses include; one-sample *t* tests to examine differences between athlete and non-athlete participant means to the published means for the CSAI-2, paired samples *t* test to compare athlete means on both the cognitive and somatic anxiety state subscales to each other, content analysis on qualitative responses to the question asking athlete participants to describe themselves as they think about their competition, frequencies and correlations on whether or not the presence of support made a difference in overall CSAI-2 cores, and content analysis on responses to the question on reasons for participating in Special Olympics.

Preliminary Analyses

Before examining the main hypotheses, initial analyses were conducted to determine whether gender or age needed to be considered in the main analyses. Two Analyses of Variance (ANOVA) were conducted and no gender differences were found for the CSAI-2 cognitive, $F(1, 164) = .73, p = .39$, or somatic, $F(1, 164) = 1.78, p = .18$, subscales among athletes. There were also no differences on the CSAI-2 cognitive $F(1,$

19) = .006, $p = .94$, or somatic $F(1, 19) = .027$, $p = .87$, subscales for the non-athlete participants.

A linear regression was conducted to determine whether age was a predictor of CSAI-2 cognitive or somatic subscale scores among athlete participants. Age was not a significant predictor of either the cognitive, $B = .06$, $\beta = .12$, $t(162) = 1.53$, $p = .13$, or somatic $B = .08$, $\beta = .14$, $t(162) = 1.83$, $p = .07$, subscales of the CSAI-2.

Additional preliminary analyses were run to determine whether or not Summer Games athletes cognitive or somatic subscale scores differed from Bowling Tournament athletes. A one-way analysis of variance (ANOVA) was conducted and no significant differences were found for the CSAI-2 cognitive, $F(1, 165) = .46$, $p = .50$, or somatic, $F(1, 165) = .07$, $p = .79$ subscale scores among the athletes. Based on the lack of significant differences identified in the preliminary analyses, age, gender, and sporting venue were not included in the testing of the main hypotheses.

Testing of Research Hypotheses

Hypotheses 1 and 2: Comparison of athlete CSAI-2 scores to normative samples

Age, gender, and ethnicity of all participants are summarized in Table 1. A one-sample t test was conducted on both the athlete and non-athlete participant CSAI-2 cognitive and somatic scores to evaluate whether their means were significantly different from 20 and 18; the accepted mean for Cognitive subscale scores for high school (20), elite (20), and college (18) athletes; and 18 and 17; the accepted mean for Somatic

subscale scores for high school (18), elite (17), and college (17) athletes. The athlete sample mean of 18.12 ($SD = 6.51$) on the CSAI-2 Cognitive subscale was significantly different from 20, $t(166) = -3.73, p < .01$. However the athlete sample mean of 18.12 ($SD = 6.51$) on the CSAI-2 Cognitive subscale was not significantly different from 18, $t(166) = .244, p = .808$. This result suggests that there is a significant difference between the mean scores on the cognitive subscale, with lower means for Special Olympics athletes when compared to elite and high school athletes, but not when compared to college athletes, thus partially confirming Hypothesis Two. The athlete sample mean of 17.25 ($SD = 7.05$) on the CSAI-2 Somatic subscale was not significantly different from 17, $t(166) = .46, p = .65$ or from 18, $t(166) = .24, p = .81$. This result confirms Hypothesis One, that there will be no significant difference in the mean somatic anxiety subscale scores between the Special Olympics athletes and the high school, college, and elite athletes that made of the normative sample for the CSAI-2.

Table 1. Gender and Ethnicity of Athlete and Non-Athlete Participants

	N	Percent
Gender-Athlete		
Male	89	53.3
Female	77	46.1
Missing	1	0.1
Gender-Non Athlete		
Male	11	52.4
Female	10	47.6
Ethnicity-Athlete		
White	103	61.7

Table 1. cont. Gender and Ethnicity of Athlete and Non-Athlete Participants

	N	Percent
Ethnicity-Athlete cont.		
Native American	2	1.2
Hispanic	2	1.2
Sweden	1	.6
German	1	.6
Russian	1	.6
Half Black	1	.6
Don't Know	13	7.8
Blank	43	25.7
Ethnicity-Non-Athlete		
White	17	81.0
Blank	3	14.3
Indian	1	4.7

A one-sample *t* test was also conducted to examine if there was a significant difference between non-athlete participant means and the means set forth by Martens, Vealy, and Burton (1990). While the CSAI-2 is not typically utilized on non-athlete populations, this researcher used the measure to determine if it was possible for supportive others to experience vicarious levels of competitive anxiety comparable to athletes enrolled in competition. The non-athlete sample mean of 15.1 (*SD*=5.1) on the CSAI-2 Cognitive subscale was significantly different from 20 $t(20)=-4.41, p<.01$ and also from 18 $t(20)=-2.611, p<.05$, with the non-athlete participants having lower means than the means published on the CSAI-2. Another one-sample *t* test was conducted on the non-athlete sample mean of 13.2 (*SD*=4.23) for the Somatic subscale on the CSAI-2.

Results are significantly different from 17 $t(20)=-4.08, p<.01$ with the non-athlete participants having lower means on the somatic subscale than the means published for this subscale on the CSAI-2. This result suggests that spectators experience milder anxiety levels than the high school, college, and elite athletes this measure was normed on. Further, it can be implied that the non-athlete participant means for both cognitive and somatic competitive anxiety states are significantly lower than the means for the athlete participants as one-sample t test results yield significance when comparing non-athlete means to values of 18 and 17 which were the respective means for cognitive and somatic anxiety state scores for the athlete participants.

Hypothesis 3: Athlete scores on the cognitive and somatic subscales of the CSAI-2

A paired-samples t test was conducted to evaluate whether there was a significant difference between the mean subscale scores for athletes. The results indicated that the mean for athletes on the cognitive subscale ($M=18.12, SD = 6.5$) was significantly greater than the mean for athletes on the somatic subscale ($M=17.25, SD = 7.05$), $t(166) = 2.07, p<.05$. The 95% confidence interval for the mean difference between the two scores was .04 to 1.70. Thus, the direction of Hypothesis Three was incorrect as cognitive subscale mean scores are significantly higher than somatic subscale mean scores for Special Olympics athletes.

Hypothesis 4: Non-athlete scores on the cognitive and somatic subscales of the CSAI-2

A second paired-samples t test was conducted to evaluate whether there was a significant difference between the mean subscale scores for non-athlete participants. The

results indicated that the mean for non-athlete participants on the cognitive subscale ($M=15.10$, $SD = 5.10$) was not significantly greater than the means on the somatic subscale ($M=13.24$, $SD = 4.23$), $t(20) = 2.08$, $p = .05$. This confirms Hypothesis Four, demonstrating that there is not a significant difference between subscale score means for non-athlete participants.

Research Questions: Analysis of descriptive data of the athletes' experience

The researcher asked an open-ended question at the end of the survey that asked each athlete to give five words to describe him or herself as he or she thought about his or her competition. This provided the opportunity for athletes to state their experiences that otherwise may not have been covered in the questionnaire. Most athlete participants responded to this question ($n=164$) and 33.5% were able to generate five responses to the question ($n=55$). Most were able to generate three descriptive words and the researcher then classified each response into positive, negative, or neutral words based on the description or characteristic given. A total of 612 responses were generated by the athlete participants; 76.14% of the responses were considered positive ($n=466$), 15.03% were considered negative ($n=92$), and 8.83% were neutral responses ($n=54$). For a detailed list of responses given, please see Table 2.

Table 2. Responses to Open-Ended Descriptive Characteristics Question

Classification	N	Percent
Positive		
Happy	93	15.20
Exciting/Excited	86	14.05
Confident	50	8.17
Having fun/Fun	47	7.68
Good/Pretty Good	32	5.23
Relaxed/Relax	20	3.27
Other	138	22.55
Negative		
Nervous	32	5.23
Scared/Scary	9	1.47
Other	51	8.33
Neutral		
I like (sport)	5	.82
Other	49	8.00

Forty-six athlete participants responded with a negative response and of those participants, most (n=40) had both a positive and a negative response classified in their descriptive words. For example, one response was “confident, self-assured, numb-feeling, angry, excited” (participant 18); which has a combination of positive (confident, self-assured, excited) and negative (angry, numb-feeling) descriptive characteristics. A few athletes (n=6) had fully negative descriptive characteristics and of these athletes, most (n=5) had cognitive and somatic state anxiety scores above the athlete participant means of 18 and 17 respectively.

Cognitive and somatic anxiety state scores appeared to vary across athletes with all positive, neutral, or positive and neutral descriptive responses. Most (n=112) athletes with these types of responses fell below the sample mean for cognitive competitive anxiety states, with 31.7% scoring at or above the sample mean for cognitive anxiety. The same appears true for somatic competitive anxiety states, with 40 (24.9%) athlete participants falling at or above the sample mean for somatic competitive state anxiety. Keeping all of this in mind, it appears as though the descriptive characteristics that each athlete used to describe him or herself in thinking about his or her competition had some effect on cognitive and somatic competitive anxiety state scores.

Common positive responses include excited (n=86), good (n=30), confident (n=50), happy (n=93), and fun (n=47). Common negative responses include nervous (n=32), worried (n=4), and scared (n=9). Neutral responses varied with no response in the neutral category yielding more than two athletes in agreement. The researcher also noticed that some unique responses could be categorized under the positive, negative, or

neutral theme such as descriptors on identity as an athlete (ie; I'm a good bowler, athletic, strong) or emphasis on the competition or medals (ie; competitive, winning, hopefully I will beat somebody, want to get first place). Usually the other descriptive characteristics that the athlete participant gave were used to determine how to classify the unique responses given.

The findings from the open-ended responses seem to support the findings from the CSAI-2 in that most athlete's responses revolved around a cognitive state of being rather than a somatic state. Only a few responses would be considered a somatic descriptor, such as "jittery" or "butterflies in my stomach" (n=16).

Regarding the presence of perceived support, it was found that 142 (85%) athlete participants reported someone present to cheer them on, 19 (11.4%) reported no one present to cheer them on, and 6 (3.6%) left this item blank on the questionnaire. Of the 247 total responses made to the interview question, 103 responses given mentioned family or specific relatives who provided support to cheer the athletes on the day of their competition, 46 responses mentioned a coach or teammates who supplying support, 54 athlete participants mentioned friends as a presence of support, and other responses (n=45) included staff members, volunteers, and aides. As most respondents (n=60) mentioned more than one source of support that fit into more than one category (ie; "uncle, friends" Participant 174), it is difficult to determine if the presence of family influences cognitive and somatic competitive anxiety states and this could be explored in a future study.

The researcher also asked a question to the athletes who participated in the bowling tournament to see whether or not they had participated in the study before. This question appeared to confuse some individuals, as 31 athletes indicated they had participated in the study before, six indicated that they did not know, and the remainder of bowlers (n=95) either indicated they had not or left this item blank on the questionnaire. Of the 37 athletes who indicated that they did not know or had participated in the study before, only one athlete was able to be matched to the Summer Games data, further indicating that some athletes may have been confused by this question. This may be due to the fact that each athlete is asked to participate in a number of surveys throughout their tenure as a Special Olympics athlete and he or she may have attributed other surveys to participation in this research project. Another possible reason for the confusion may have been due to study fatigue, as the question about repeat participation was at the end of the long questionnaire.

CHAPTER V

DISCUSSION

“The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community” (Special Olympics, 2008). Since the birth of Special Olympics in the 1970’s, this organization has grown to encompass worldwide acclaim. More recently, Special Olympics participation has nearly doubled in the past few years (Meagher, personal communication, August 2008). As the Special Olympics grows in popularity among individuals with intellectual disabilities, research related to the Special Olympics athlete should also be brought to the forefront. This study is an attempt to bring to light a previously unexplored area of research for athletes with intellectual disabilities who participate in the Special Olympics. This study aimed to examine cognitive and somatic competitive state anxiety for the Special Olympics athlete.

Competitive anxiety is used to describe performance anxiety related to competitive situations, such as sporting events. Competitive anxiety was first explored as a theoretical construct related to state and trait anxiety by Rainer Martens in 1977. Since

that time, various measures of both state and trait competitive anxiety have been used to assist professionals working with athletes on curbing anxiety issues that may interfere with the athlete's ability to perform well. Such measures have not been normed or studied on the athlete with an intellectual disability and this study attempted to use a pre-existing measure to examine cognitive and somatic aspects of competitive anxiety in Special Olympics athletes.

Results from this study show that Special Olympics athletes experience similar levels of somatic competitive state anxiety to those of high school, college, and elite athletes as measured by the CSAI-2. Athlete participants in this study yielded a mean score of 17.25 on the CSAI-2 somatic competitive anxiety state subscale. This was not found to be any different than the means reported by Martens, Vealy, and Burton (1990) for the populations named above. This means that Special Olympics athletes are just as likely to recognize and report somatic symptoms such as sweaty palms, rapid heartbeat, and jittery feelings as their high school, college, and elite counterparts when asked about these symptoms on a standardized measure, a finding that directly supports Hypothesis One.

Cognitive anxiety states may be more difficult for an athlete with an intellectual disability to identify and this may explain the results found when comparing the means of Special Olympics athletes to the means reported by Martens, Vealy, and Burton (1990) on the Cognitive state anxiety subscale of the CSAI-2. Participant athletes in this study identified and reported cognitive anxiety states similar to those of college athletes, but less than that of high school and elite athletes. It is difficult to explain why this

discrepancy might exist and the authors of the CSAI-2 offer no explanation for the discrepant scores for their norm samples. When comparing the data, it might make sense that individuals with cognitive impairments would score lower on a cognitive domain than individuals that do not have cognitive impairments, and this would be accurate with other aspects as well (i.e.; intelligence testing). However, this does not explain why the scores are similar for college athletes and state-level Special Olympics athletes and this is worth further study. While this researcher did not have access to the raw data for the norm samples, one can speculate that the age for college athletes was younger than the mean age for the study ($M=31.02$). The differences in age cannot explain the similarity in scores as the mean age for the study might more closely match the elite athlete's mean age. The idea that Special Olympics athletes score lower on cognitive competitive anxiety scores cannot be dismissed as simply due to cognitive impairment and is worth exploring if there is more to the athlete's approach to the mental aspect of sport performance that high school and elite athletes could learn from. Further, what is apparent in this study is that a majority of the qualitative responses were given in cognitive terms ($n=596$) for the Special Olympics athletes. This study also found through use of an open-ended question that most athletes describe themselves in a positive manner when asked to think about themselves and their competition. While the majority of responses were positive ($n=466$), those participant athletes who gave all negative descriptors tended to have higher cognitive and somatic competitive anxiety state scores. While there was not enough of a significant amount of athletes who gave negative descriptors ($n=6$), this study can suggest the possibility that there is a link between the

way a Special Olympics athlete views him or herself and how he or she may experience higher levels of both cognitive and somatic competitive anxiety states.

Regarding comparing athlete participants' means to each other (Hypothesis Three), this study found a significant difference between the means for cognitive and somatic anxiety states, with cognitive anxiety states being higher than somatic anxiety states for this athletic population. These results mean that a Special Olympics athlete is more likely to report experiences of cognitive competitive anxiety rather than somatic competitive anxiety and this is consistent with the qualitative findings of this study. These results do show a significantly strong positive correlation (.680, $p < .01$) which means that as symptoms increase for cognitive competitive state anxiety, symptoms also increase for somatic competitive state anxiety and this has implications for treating Special Olympics athletes for competitive or performance anxiety.

This study also attempted to examine vicarious levels of anxiety experienced by spectators attending the state-level competitive events for Special Olympics. Coaches, parents, and volunteers were asked to fill out the same objective measure and it was found that this population experiences a significantly milder level of cognitive and somatic competitive state anxiety when compared to the norms published by Martens, Vealy, and Burton (1990). It might just be that this measure is not appropriate for participants who are not directly affected by the competition, but it could also mean that the competition has some effect on spectators, but not to the same extent that it does for the athlete.

This paper was designed to examine the experiences of competitive state anxiety at a state-level competition for Special Olympics athletes. This study specifically examined this construct using both qualitative and quantitative methodology. These results suggest that the experiences of these athletes are similar to other athletes in some ways and different in others. With this in mind, it would be important to include athletes with intellectual disabilities in the conversation about treatment of competitive anxiety as well as continue research to try and explain the discrepancies.

Limitations

There are several limitations to this study including the type of environment the data was collected in as well as the method of delivery of the surveys to the athletes. Each athlete at the bowling tournament was interviewed by a research assistant and the study attempted to control for the way the interview was conducted through a formal training and standardized instructions to each research assistant ahead of time (see Appendix A). Even with this process in place, each interviewer brought individual characteristics to the interview situation including previous level of interaction with people with intellectual disabilities as well as research experience. Some research assistants indicated feeling nervous about how to interact with the athletes during interviews as they expressed that this was the first time they had volunteered for the Special Olympics organization and consequently this was the first time they had interacted with people with intellectual disabilities. Those research assistants who were nervous in their interactions around the athletes could have influenced an athlete's response to the questionnaire. Interviewer anxiety could have influenced data collection

through speeding through the items, vicarious anxiety experienced by the athlete which would then lead to higher anxiety scores, and difficulty understanding or managing communication barriers which in turn could lead to not properly representing the athlete's response. Though there were only a select few individuals who little or no prior experience working with athletes with intellectual disabilities, it still draws attention to the idea that a more thorough training of all research assistants may have been needed to control for this anxiety. Individuals who had previous experience working with athletes with intellectual disabilities did not express concern around how to interact with the athletes, but did express concern about the standardization of the research protocol. Each interviewer was instructed to read the survey to the participants and record their responses. They were also instructed to provide one attempt at elaborating on a certain question should they recognize the athlete was having difficulty understanding the item on the questionnaire. Each interviewer was then asked to mark the item he or she elaborated on so that this was brought to the principal investigator's attention. When the investigator received the surveys back, she noticed that some interviewers had further elaborated the surveys through use of face drawings on the scaled items. This proved useful to receive responses from the athlete for each item, but deviated from the research protocol and could have compromised the individual athlete's choice in response to each item. Another limitation to the interview process itself was the open-ended qualitative question prompted cognitive responses by asking athletes to "think" about their competition. It is clear that an overwhelming majority of the responses were cognitive, and this could have been part of the reason why. A more appropriate question may have been to ask athletes to describe how they think or feel about their competition.

Further limitations to this study include the environment in which the study was conducted. At the bowling tournament, each athlete was preparing to compete in a matter of minutes or was already competing and answering the questions between each frame of bowling. The previous frame's success or failure could have influenced the athlete's response to the items on the questionnaire. This questionnaire is designed to give out to athletes approximately 15 minutes before competition and this would have been difficult to do given that each athlete is trying to find his or her lane, get squared away with shoes, and find a bowling ball during this time. Further, each athlete interviewed was in the presence of others as he or she was being interviewed and this could have created a social desirability component as some athletes looked to peers and fellow competitors when responding to certain items. The environment at the Summer Games state competition was a little more private on the first day of data collection as athletes were directed to a research table to fill out the surveys. Most athletes were accompanied by a parent, coach, guardian, or fellow teammate and the presence of these other individuals might have influenced responses to the questionnaire as a result. The second day of competition at the State Games had research assistants interviewing athletes in the grandstands of the track, either while an athlete was getting ready for the meet, or after he or she had received his or her medal. Timing of the responses on this day may have affected the data as athletes who had already competed and received a medal may feel differently about the experiences than immediately prior to the competition. These differences in data collection environments imply that each athlete may have been influenced by what was occurring in their immediate environment and his or her scores might be different based on this environment. The state of anxiety is expected to be high right before

competition and so it would be expected that those athletes who had already competed or were competing several hours later would have lower CSAI-2 scores.

Social desirability also could have been a factor as an athlete was sometimes interviewed by local college athletes who might have a more public profile and be recognized by the Special Olympics athlete. Further, self-report measures often have the added difficulty of overcoming the tendency that a person might have to want to present themselves in a favorable light (Ballard, Crino, & Rubinfeld, 1988) and this questionnaire attempted to address social desirability in the standard instructions for the interview as well as reverse scoring item 14 on the questionnaire.

Finally, it appears as though most of the athletes understood a large portion of the interview questions: however, to make this study stronger, it may have been a good idea to include some questions to demonstrate that each athlete had an understanding of the items. The researcher attempted to do this by instructing each research assistant to mark questions or items that the athlete had difficulty with, but a more formal measure would have been a better option and one to consider in the future. In addition to this, it appears as though the norms used in comparison to the study sample had a limited age range relative to the age range in the study sample. The researcher did not have access to the raw data from the sample norms used in developing the measure and this would have been helpful information to better understand if the measure could have been used on the current sample's younger and older participants. No age ranges were reported in the scale development sample.

There are several limitations to the non-athlete participant portion of this study. First, a small sample size limits the generalizability of this research and also could have contributed to the significance of the effects found. Second, there was no privacy for these participants either and the environment in which they filled out the surveys was similar to the environment described for the athlete participants and so social desirability as well as other environmental interferences (ie; noise) could have impacted the way a participant responded to each item. Finally, timing of administration of the questionnaire was also a problem for the non-athlete participants. There was no standardized way to make sure that each parent, coach, or volunteer filled out the questionnaire approximately 15 minutes prior to the competition that they had come to watch and so an athlete or team's success or failure could have influenced the way a coach or parent had elected to respond to each item.

Implications for future research, theory, and practice

This study provides useful information about the experiences of each individual Special Olympics athlete. Therefore, there are several future directions using the current data as well as ideas for different research designs. First of all, the researcher would like to add an observational component to compare self-reported data to other-observed data. Athletes were observed to be pacing the track before a race as well as hitting the back of the scoring monitor at the bowling alley after bowling a frame that did not yield a good score. Such behaviors could be indicative of the intensity of the competitive situation. Future research could record the athlete in competition and compare behavioral ratings to self-report ratings of competitive anxiety.

This study is limited to the state in which the data was collected and may not necessarily translate into other state-level competitions as well as national and international competitions. Future studies could examine the experiences of athletes in other states and also examine if the scores on anxiety measures increase for athletes as the level of competition increases from state to national and then to international. Further, the questionnaire given implies that a value of winning is present for each individual athlete and this may not be the case in every country or culture, particularly those in which collectivism is valued over individualism. This survey could be administered to athletes from different countries or cultures to determine if levels of anxiety change based on where the athlete is from. Further, a study could examine if anxiety level is dependent upon whether or not the athlete is competing with a team or as an individual. There is also a new approach to recognition of athletic talent within the Special Olympics organization. This new approach is termed the Maximum Potential Initiative and rewards personal bests instead of giving medals to top finishers (Mersereau, personal communication, 2009). It would be interesting to evaluate levels of competitive anxiety between two different countries; one who utilizes the Maximum Potential Initiative and another that provides medals to top finishers.

This study also collected data on the number of times practiced prior to competition; however interpretation of this question varied yielding too many diverse responses for analysis. Some athletes interpreted the question to report frequency on a weekly, daily, or yearly basis whereas others interpreted the question to mean the number of times one had competed previous to the day's competition. This speaks to the

subjective interpretation of the word practice, as for some athletes this meant qualifying competitions and for others it meant meeting with a coach and a team to develop skills. A future study could provide clarity to the question and analyze whether or not practice before a state-level competition has any impact on the Special Olympics athlete's experience of competitive anxiety. Other information gathered as a part of this study was vocational information that asked whether the athlete worked full-time or part-time and the nature of the work required, this was added to the research upon request of the cooperating Special Olympics state agency.

Another study with access to placing and medal information could pair competitive anxiety scores with this information to examine if anxiety levels affected where the athlete placed in his or her competition. This could lay the foundation to examine the research question about whether or not medaling makes a difference in the way an athlete experiences competition. A future research question could examine if level of perceived support affects competitive anxiety scores and consequent placement on the medal stand as well. Finally, a future report could be done on the type of jobs given to people with intellectual disabilities; a study not relevant to the construct of performance anxiety, but could translate back in to whether or not the athlete is able to find support in co-workers at Special Olympics events and also whether or not agencies get on board for sponsoring an athlete who works for them (another element of support) to attend a national or international competition.

Beyond studies that examine medal placement, future studies with access to information about intellectual ability could examine if level of intellectual impairment

(i.e. mild, moderate, severe, profound) influenced competitive anxiety states. The Special Olympics organization in the state in which the data was collected divides athletes into various competitive categories based on athletic ability or cognitive capability. A future study could examine if different categories uniquely experience competitive anxiety based on a Special Olympics authority's appraisal of the athlete's abilities. Finally, not enough data was collected in this study to examine differences in competitive anxiety states based on the specific sport played, but a larger-scaled study could compare average competitive anxiety scores yielding a direct sport-to-sport comparison.

All of these research questions could lead to an emerging theory on competitive performance anxiety for Special Olympics athletes which may or may not be different than the already existing theories of competitive anxiety. Another important future direction for research would be to give in-depth interviews to a select few athletes to ultimately answer the question of what it is that they experience at each event. This could be done to provide the foundation for developing a new questionnaire specific to athletes with intellectual disabilities that incorporates not only the findings from the qualitative study, but also the results from the current study.

While outside the scope of the present study, it would be interesting to follow up with an overall critique of the applicability of the CSAI-2 to people with intellectual disabilities. This study did not specifically focus on demonstrating whether or not each question asked was comprehended clearly by each research participant, but did allow for accommodations to be made so that athletes could feel more comfortable with the overall

study. Some accommodations included having a family member or teammate present while answering the questions and other accommodations included allowing the researcher to provide an explanation if a participant expressed that he or she did not understand the question or did not promptly respond. Further, research assistants were asked to make note of any questionnaire item that he or she had to provide further interpretation for a question. Certain items within the scale seemed to require more frequent interpretations than others and certain items may have been left blank by a participant because he or she still did not understand the item's concept upon further explanation. If there were two or more answers left blank, the questionnaire was invalid and could not be scored and valuable information about the experiences of these athlete participants was lost. An informal examination of the participants whose data was not used due to invalid subscale scores shows that seven of the 18 athlete participants did not respond to item 25 on the CSAI-2 ("I'm concerned I won't be able to concentrate"). Further, the most frequently marked item for further explanation by research assistants was item three ("I feel at ease") with 26 athlete participants requiring further explanation of this item. Future studies could entertain the idea of modifying these items or changing item content based on qualitative data from this study and others to come.

The current study serves as a starting point for addressing the issue of treating competitive sport anxiety in the Special Olympics athlete. It is important also to examine if current treatment regimens that exist for high school, college, or elite athletes could be used in the Special Olympics athlete as well. Further, if the treatments need to be modified in any way based on the Special Olympics athlete's description of the situation,

it would be important to develop a way to train coaches and volunteers alike on how to address performance anxiety as they see it come up with each individual athlete. In addition to coach and volunteer training, the Special Olympics organization has a program called Healthy Athletes that ensures that each athlete's medical and physical needs are being met on the day of competition. This program includes dental exams and physical checkups for athletes who would otherwise not receive this care (Special Olympics, 2008). It would be useful to examine if there would be a way to incorporate addressing each athlete's mental health needs into this already existing and successful program.

Conclusion

It was found that Special Olympics athletes experience similar levels of somatic competitive anxiety when compared to high school, college, and elite athletes in various sports. It is clear that athletes in this study were able to identify somatic symptoms of competitive anxiety. This suggests the possibility that current measures of somatic competitive anxiety do not have to be altered in order to be considered a sufficient measure of this construct for athletes with intellectual disabilities. This finding also suggests that current treatments that specifically address somatic competitive anxiety should be studied with athletes with intellectual disabilities and may not have to be altered to address the needs of this population.

While not the overwhelming majority, some athletes did report cognitive competitive anxiety symptoms such as nerves and worry when asked an open-ended question on describing how they felt when they thought about their competition. This

finding along with the significantly higher average scores for cognitive competitive anxiety in Special Olympics athletes suggests that this construct needs further exploration with this population. It might mean that current measures of cognitive competitive anxiety need to be modified to get a more accurate picture of the true experience of the athlete with an intellectual disability.

The findings from this study are relevant for future research and can be used to train coaches and volunteers on ways to respond to an athlete who appears anxious and reports somatic symptoms. More research needs to be done before similar trainings on cognitive anxiety can be made available for coaches and volunteers.

Table 3. Data for Ages of Participants

Category	N	Mean	SD	Min	Max
Athlete	167	31.02	13.01	11	81
Non-Athlete	21	41.81	14.52	18	64

Table 4. *Summary of Test Statistics by Participant Type and Gender*

Type	<u>Female</u>			<u>Male</u>			F(df)
	N	M	SD	N	M	SD	
Athlete	77			89			
CSAI-cog		18.54	6.72		17.67	6.31	.73 (1, 164)
CSAI-som		17.97	7.62		16.52	6.43	1.78 (1,164)
Non-Athlete	10			11			
CSAI-cog		15.00	4.88		15.18	5.13	.01 (1,19)
CSAI-som		13.40	3.84		13.09	4.74	.03 (1,19)

Table 5. *One-Sample t test Results by Participant Type and Test Value*

					95% Confidence Interval	
Type	Subscale	M(SD)	t	p-value	Lower	Upper
Athlete						
17	Som	17.25(7.05)	.46	.645	-.83	1.33
18	Som	17.25(7.05)	.24	.650	-1.83	0.33
18	Cog	18.12(6.51)	.24	.808	-.87	1.12
20	Cog	18.12(6.51)	-3.73	.000	-2.87	-.88
Non-Athlete						
17	Som	13.23(4.23)	-4.08	.001	-5.68	-1.84
18	Cog	15.10(5.10)	-2.61	.017	-5.23	-.58

Table 6. *Paired Samples t-test Results for Athlete Participants*

				<u>95% Confidence Interval</u>	
Pair	M(SD)	t	p-value	Lower	Upper
Athlete					
Cog-Som	.87(5.45)	2.07	.04	.04	1.70
Non-Athlete					
Cog-Som	1.85(4.09)	2.08	.05	-.00	3.72

Appendix A

Research Assistant Instructions

Hello! Thank you for volunteering with the Special Olympics and with my Dissertation Research Project looking at performance anxiety in Special Olympic athletes.

The attached forms will be what you will use to interview each athlete. Here is how it will work:

1. For each game of ten frames, you may only be able to get one or two interviews done, do your best to find someone who is willing to participate that won't be distracted from his or her turn for bowling. Make sure you are paying attention to the rotation of turns in the bowling lane too so that you can help the athlete remember it is his or her turn to bowl and let him or her know that you will ask the next question on the interview after they are done bowling their turn.
2. First, ask them how old they are. If they are under 18, they cannot participate in the research unless they have a parent or guardian that can sign a permission form. You have a few copies of this form (it's called "Parental Consent Form") and can give it to the athlete to have his or her parent/guardian sign before you ask them the questions. If they return this form signed, then follow onto step 3.
3. If they are over 18, they can sign the form themselves. The next step is to have all of the athletes who agree to participate in the research project sign the "Athlete Consent Form." This form is the top page in each of the packets. You can explain the project to them like this:

"This is a school project for a student at UND. If you would like to help out with the school project, I will be asking you a few questions while you are bowling about how you like the Special Olympics and what it is like to be an athlete for the Special Olympics. This UND student may also record you at this event, or at another event where you are an athlete (like basketball). She will only record you if you agree to be recorded. Also you should know that your answers will be kept separate from your name so that you can feel free to say anything you want to about being an athlete in Special Olympics without anyone knowing it was you that said it. Would you like to help out? (If yes) Sign here (show them where to sign and mark the spot that says "yes") Is it alright with you to be recorded on videotape? (Mark the appropriate box on the consent form...yes or no)"

4. Once they have signed the consent form, you can start the interview. Start asking them the questions and proceed through the packet. Any questions the athlete doesn't know in the first section, you can put "don't know." For the ranking order questionnaire, there are detailed instructions that you don't have to read through with the athlete, but you should read through them once yourself so that you are familiar with the instructions. Instead, you can say something like:

"Now I am going to read to you some things that some athletes experience when they play their sport. I want you to think of your experiences right now as you are bowling and tell me if these things that I read to you are really like you (4), kind of like you (3), not really like you (2), or not at all like you (1)." Sometimes it's helpful just to ask them to tell you which number on a scale of 1-4 fits best for them. Circle that number on that scale for that item.

5. First, read the statements to them. If they are confused about what the statement means, highlight the statement and then do your best to explain it to them. Only highlight the statements that you read to them that require you to give an additional explanation. For each of the statements, circle the corresponding number that they tell you to circle.
6. There are a few questions on the back of the questionnaire...don't forget these! Also, have them answer the final questions that are not a part of the survey but are on a separate sheet of paper attached to the questionnaire (questions about employment).

Here are some extra notes about the questions, since this same interview was used in May, the wording of the questions can be confusing. Here is how some of the questions may need to be modified:

-How many events are you signed up for? Change to How many times will you bowl today? Try and find out if they are only bowling that one time, or if there are other times they will come back and bowl

-Skip the what are these events question

-Find out the time they are bowling again if they are, this will be especially helpful if they have agreed to be recorded...also make note on that one that you are interviewing them while they are bowling, not the current time as well as future times that they may know that they are bowling

-What time is it now? Just go ahead and look at the clock and write down the time

-Ask them "have you bowled already today?" instead of "Have you participated in some events already today?" No need to answer the follow-up "if so, what events have you done" or "what events do you have left?"

-Find out if they are bowling as a part of a team or individually

-Ask them "is this your first time bowling for the Special Olympics?" instead of "Are there new events that you are doing this year that you haven't done in the past?" No need to ask the follow up question "if so, what are these new events?"

All other questions should asked the same way they are written.

Thanks! Let me know if you have any questions.

Emilia Boeschen

Principal Investigator

Appendix B

Athlete Questionnaire

DIRECTIONS: Thank you for agreeing to participate in this study on performance anxiety. Please answer these questions to the best of your ability, feel free to ask for assistance from any of the research volunteers if you need.

Age_____ Ethnicity_____ Gender_____

Special Olympics Division: (find info on name tag) _____

How many events are you signed up for?

What are these events?

What time are the events?

What time is it now?

Have participated in some events already today? _____yes _____no

If so, what events have you done?

What events do you have left?

These events are (check one) _____team sport _____individual sport

How many years have you been a part of the Special Olympics?

Why did you decide to sign up for today's activities?

Have you participated in the Special Olympics of North Dakota State Games before? _____yes
_____no

If so, how many times?

Are there new events that you are doing this year that you haven't done in the past? _____yes
_____no

If so, what are these new events?

Do you have supporters here today to cheer you on? _____yes _____no

If so, who are these people?

Do you practice for your events before this weekend? ____yes ____no

If so, how often do you practice?

The effects of highly competitive sports can be powerful and different among athletes. The inventory you are about to complete measures how you feel about this competition at the moment you are responding. Please complete the inventory as honestly as you can. Sometimes athletes feel they should not admit to any nervousness, anxiety, or worry they experience before competition because this is undesirable. Actually, these feelings are quite common, and to help us understand them we want you to share your feelings with us candidly. If you are worried about the competition or have butterflies or other feelings that you know are signs of anxiety, please indicate these feelings accurately on the inventory. Equally, if you feel calm and relaxed, indicate those feelings as accurately as you can. Your answers will not be shared with anyone. We will be looking only at group responses.

A number of statements that athletes have used to describe their feelings before competition are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate *how you feel right now*—at this moment. There are no right or wrong answers. Do *not* spend too much time on any one statement, but choose the answer which describes your feelings *right now*.

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition1	...2	...3	...4
2. I feel nervous	...1	...2	...3	...4
3. I feel at ease	...1	...2	...3	...4
4. I have self-doubts	...1	...2	...3	...4

5. I feel jittery	...1	...2	...3	...4
6. I feel comfortable	...1	...2	...3	...4
7. I am concerned that I may not do as well in this competition as I could	...1	...2	...3	...4
8. My body feels tense	...1	...2	...3	...4
9. I feel self-confident	...1	...2	...3	...4
10. I am concerned about losing	...1	...2	...3	...4
11. I feel tense in my stomach	...1	...2	...3	...4
12. I feel secure	...1	...2	...3	...4
13. I am concerned about choking under pressure	...1	...2	...3	...4
14. My body feels relaxed	...1	...2	...3	...4
15. I'm confident I can meet the challenge	...1	...2	...3	...4
16. I'm concerned about performing poorly	...1	...2	...3	...4
17. My heart is racing	...1	...2	...3	...4
18. I'm confident about performing well	...1	...2	...3	...4
19. I'm concerned about reaching my goal	...1	...2	...3	...4
20. I feel my stomach sinking	...1	...2	...3	...4
21. I feel mentally relaxed	...1	...2	...3	...4
22. I'm concerned that others will be disappointed with my performance	...1	...2	...3	...4

23. My hands are clammy	...1	...2	...3	...4
24. I'm confident because I mentally picture myself reaching my goal	...1	...2	...3	...4
25. I'm concerned I won't be able to concentrate	...1	...2	...3	...4
26. My body feels tight	...1	...2	...3	...4
27. I'm confident of coming through under pressure	...1	...2	...3	...4

Please give five words to describe yourself right now as you think about your competition:

- 1.
- 2.
- 3.
- 4.
- 5.

What do you like most about the Special Olympics?

Recruitment Flyer for Participation

Attention Coaches!!!

Ever wonder how performance anxiety affects you or your athletes on the day of the event?

You and your athletes are invited to participate in a study on performance anxiety.

UND Counseling Psychology doctoral student Emilia Boeschen and her research team will be present at the North Dakota State Special Olympics games held in Fargo. You and your athletes will be asked to fill out a questionnaire regarding your thoughts and feelings about the weekend events. This questionnaire only takes about fifteen minutes to fill out and you will be contributing to a research project supported by the Special Olympics that will further assist treatment endeavors in the future for your athletes. All participants will receive a UND pen to thank them for participating. It is most ideal to have the multiple event athlete stop by after one event is complete, but Emilia and her team are willing to work around each participant's schedule. Additionally, athletes may be asked if it is okay to videotape them during their event as this is also a part of the data analysis. Please promote participation in this study to your athletes and please stop by and fill out the questionnaire yourself. Athletes who are not their own legal guardian or are under the age of 18 will need to obtain permission from parents or guardians prior to participation in this study. Thank you for your cooperation and promotion! Should you have any questions prior to the State Games, you can reach Emilia (the principal investigator) at (701) 739-0453.

Appendix D

Non-Athlete Questionnaire

Please list the names of the people you have come to coach or watch in this weekend's events:

Note: This portion will be removed after data has been matched to the athlete so no identifying information will be tied to your answers.

DIRECTIONS: Thank you for agreeing to participate in this study on performance anxiety. Please answer these questions to the best of your ability, feel free to ask for assistance from any of the research volunteers if you need.

Age _____ Ethnicity _____ Gender _____

How many events will you be coaching or watching during the weekend?

What are these events?

What time are the events?

What time is it now?

Has your team already participated today or have you watched your athlete in an event already?
_____yes _____no

If so, what events have you coached/watched?

What events do you have left?

These events are (check one) _____team sport _____individual sport

How many years have you been a part of the Special Olympics?

Why did you decide to volunteer for today's activities or why did you choose to come watch?

Have you coached/watched the Special Olympics of North Dakota State Games before? _____yes
_____no

If so, how many times?

Are there new events that you are watching/coaching this year that you haven't done in the past? ____yes ____no

If so, what are these new events?

Coaches: Do you hold practices for your events before this weekend? ____yes ____no

If so, how often do you practice?

The effects of highly competitive sports can be powerful and different among athletes. The inventory you are about to complete measures how you feel about this competition at the moment you are responding. Please complete the inventory as honestly as you can. Sometimes athletes feel they should not admit to any nervousness, anxiety, or worry they experience before competition because this is undesirable. Actually, these feelings are quite common, and to help us understand them we want you to share your feelings with us candidly. If you are worried about the competition or have butterflies or other feelings that you know are signs of anxiety, please indicate these feelings accurately on the inventory. Equally, if you feel calm and relaxed, indicate those feelings as accurately as you can. Your answers will not be shared with anyone. We will be looking only at group responses.

A number of statements that athletes have used to describe their feelings before competition are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate *how you feel right now*—at this moment. There are no right or wrong answers. Do *not* spend too much time on any one statement, but choose the answer which describes your feelings *right now*.

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition12	...3	...4
2. I feel nervous	...1	...2	...3	...4

3. I feel at ease	...1	...2	...3	...4
4. I have self-doubts	...1	...2	...3	...4
5. I feel jittery	...1	...2	...3	...4
6. I feel comfortable	...1	...2	...3	...4
7. I am concerned that I may not do as well in this competition as I could	...1	...2	...3	...4
8. My body feels tense	...1	...2	...3	...4
9. I feel self-confident	...1	...2	...3	...4
10. I am concerned about losing	...1	...2	...3	...4
11. I feel tense in my stomach	...1	...2	...3	...4
12. I feel secure	...1	...2	...3	...4
13. I am concerned about choking under pressure	...1	...2	...3	...4
14. My body feels relaxed	...1	...2	...3	...4
15. I'm confident I can meet the challenge	...1	...2	...3	...4
16. I'm concerned about performing poorly	...1	...2	...3	...4
17. My heart is racing	...1	...2	...3	...4
18. I'm confident about performing well	...1	...2	...3	...4
19. I'm concerned about reaching my goal	...1	...2	...3	...4
20. I feel my stomach sinking	...1	...2	...3	...4
21. I feel mentally relaxed	...1	...2	...3	...4

22. I'm concerned that others will be disappointed with my performance	...1	...2	...3	...4
23. My hands are clammy	...1	...2	...3	...4
24. I'm confident because I mentally picture myself reaching my goal	...1	...2	...3	...4
25. I'm concerned I won't be able to concentrate	...1	...2	...3	...4
26. My body feels tight	...1	...2	...3	...4
27. I'm confident of coming through under pressure	...1	...2	...3	...4

Please give five words to describe yourself right now as you think about your competition:

- 1.
- 2.
- 3.
- 4.
- 5.

What do you like most about the Special Olympics?

Appendix E

Athlete Consent Form

You are being asked to participate in a study that intends to explore how you feel about participating in the Special Olympics. Specifically, we are interested in better understanding your experiences as a Special Olympic athlete. Any questions may be directed to Emilia Boesch, MA at (701) 739-0453 or Dr. Cindy Juntunen at (701) 777-3740 from the Department of Counseling Psychology and Community Services at the University of North Dakota. If you have any other questions or concerns please call the Office of Research and Program Development at the University of North Dakota at (701) 777-4279.

Someone will ask you a series of questions which will take about fifteen minutes. This person is a trained member of the research team. This member of the research team will record your answers on paper and this paper will be used later as data. Your name will not be used as a part of this data so you can be sure that you can answer honestly. This same member of the research team may ask you if you want to be videotaped when you are in your sport. This videotape is a second part of the research and your name will not be used as a part of this either. All tapes will be destroyed as soon as the research is finished. The answers that you give that the researcher is writing down on paper will be kept for three years and will then be destroyed. This form that you sign will also be kept for three years in a separate place from the other information and will be destroyed too. For these three years, no one else will be able to see the responses except the two people mentioned above and people who audit IRB procedures.

Your participation is completely voluntary. Your decision to participate will in no way affect your relationship with the Special Olympics or with the University of North Dakota. You may quit at any time without any penalty to you by notifying the researcher, and your information will be deleted from the data.

If you return this signed form, you will receive a UND Pen. If you are under 18, you should have two signed forms; yours and your parent's or guardian's. If you have both of these, you will receive a UND Pen.

I have read the information above or have had the information read to me and have been given the opportunity to ask questions and have those questions answered by the researcher. I have been given a copy of this paper to keep for my records.

_____ Yes, I DO agree to participate in this study.

_____ No, I do NOT agree to participate in this study.

_____ Yes, I DO agree that it is okay to videotape my performance in the Special Olympics

_____ No thank you, I would rather not be videotaped

_____	_____	_____
Name (printed)	Signature	Date

Appendix F

Parental Consent Form

Your son or daughter is being asked to participate in a study that intends to explore performance anxiety experiences of Special Olympic athletes. Specifically, we are interested in understanding the certain behaviors and feelings that could contribute to anxiety experiences on the day of participation in an event sponsored by Special Olympics. Any questions may be directed to Emilia Boesch, MA at (701) 739-0453 or Dr. Cindy Juntunen at (701) 777-3740 from the Department of Counseling Psychology and Community Resources at the University of North Dakota. If you have any other questions or concerns, please call the Office of Research and Program Development at the University of North Dakota, at (701) 777-4279.

Information for this study will be collected by interviewing volunteer Special Olympic participants by a trained member of the research team. In addition to the interviewers, your son or daughter may be asked if it is alright to videotape his or her performance for future analysis. The participant will be asked a short series of questions in which a response is given on a four-point scale and demographic information, including age, gender, ethnicity, and previous experiences with Special Olympic events. If your child returns the signed consent and assent forms, he or she will receive a UND Pen. Your son or daughter's responses will be recorded on paper and will be used for data analysis. Additionally, should your son or daughter give consent to be recorded, his or her videotaped performance will be utilized for the purposes of data analysis at a later time. No names or other identifying information will be attached to the data used in the analysis. All demographic information will be reported in group form only in the final report, so that no individual participant can be identified. All tapes will be destroyed as soon as data analysis is complete.

Interview forms will be stored for a period of three years in a locked filing cabinet in the Department of Counseling Psychology and Community Services at UND. Parental/guardian consent forms and participant assent forms will be stored in a separate locked filing cabinet for a period of three years. After three years time, both data and consent/assent forms will be destroyed by shredding or burning. Only the researchers and people who audit IRB procedures will have access to the data.

As stated above, participation is completely voluntary. Your child's decision to participate will in no way affect his or her relationship with the Special Olympics Program or with the University of

North Dakota. Your child may withdraw at any time without any penalty by notifying the researcher, and his or her information will be deleted from the study database.

I have read the information above and have been given the opportunity to ask questions and have those questions answered by the researchers. I also give consent for my son or daughter to be video recorded should he or she consent to this form of data collection. I have been given a copy of this consent form to keep for my records.

_____ Yes, I **DO** consent to my son's or daughter's participation in this study.

_____ No, I do **NOT** agree to my son's or daughter's participation in this study.

Name (printed)

Signature

Date

Name of Child(ren)

Appendix G

Non-Athlete Participant Consent Form

Study Description

You are invited to participate in this research study designed to investigate the levels of performance anxiety you may be experiencing prior to your son, daughter, or team's competition. You are eligible to participate because you are in attendance at the North Dakota Special Olympics Summer Games as a coach or are supporting your son or daughter or legal guardian. You must be at least 18 years of age to participate in this research study. The primary investigator to this research is a second year doctoral student in Counseling Psychology at the University of North Dakota. Your participation is a part of her doctoral dissertation project.

If you agree to participate, you will be asked to complete a questionnaire. This questionnaire will contain questions about your own thoughts and feelings about the weekend's events as well as demographic information such as gender, race, and number of years involved in Special Olympics. After the questionnaire is filled out, your data will be entered into a large database and identifying information about you and the names of the athletes you are supporting will be removed.

Participation in this study will take approximately fifteen minutes of your time. Upon completion of the questionnaire, you will be awarded a UND pen for your participation.

Confidentiality

All information you provide will be kept completely confidential. You will not be asked to put your name on any of the material you fill out. Names of the Special Olympic participants that you put down will be removed from the top of the questionnaire and shred once your data has been matched with the athlete and there will be no way to trace your responses to you or the athlete after this has occurred. All information provided in this study will be kept in a locked file cabinet in the investigator's office, and only the researcher and her advisor and people who audit IRB procedures will have access to this information. All data will be retained for a period of three years and then will be destroyed by the investigator. The information obtained in this study may be published in a scientific journal or presented at scientific conferences. However, only summary results will be used and individuals will not be identified. We will make these results available to any interested participants at the completion of this research study.

Risks and Benefits

You may find this to be a learning experience by helping you to better understand this particular research methodology. In addition, the information gained from this study will contribute to our understanding of leadership development. The risks associated with the

present project are expected to be minimal. If you experience any physical harm as a result of participation in this study and need information on how to remedy this, please contact the investigator immediately and she will give you this information. Given the possible sensitive nature of the information assessed, however, there is a possibility that you may experience some emotional discomfort. In the event that you experience any distressing emotions in response to some of the questions, please alert the investigator immediately and she will provide you with a referral for psychological treatment at a discounted or sliding-fee scale.

Right to Ask Questions

You may ask any questions pertaining to this research and have those questions answered prior to agreeing to participate or at any time during the study. Feel free to contact the investigator, Emilia Boeschén at any time at 701-739-0453 or her advisor, Dr. Cindy Juntunen at 701-777-3740 with questions about your participation. If you have any other questions or concerns, please call the Office of Research and Program Development at 701-777-4729.

Freedom to Withdraw

You are free to decide not to participate or withdraw at any time without adversely affecting your relationship with the investigator, the University of North Dakota, or the Special Olympics. Your decision will not result in any loss of benefits to which you are otherwise entitled.

By signing below, you are verifying that you have voluntarily decided to participate in this research study and that you have read and understood the information provided above. You will be given a copy of this consent form for your records.

Signature of Participant_____

Date_____

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